News

Jan. 19th, 2006

MVS receives multiple orders related to thin film silicon photovoltaics

Golden, Colorado, USA: MVSystems, Inc. is pleased to announce the receipt of following contracts.

1. MVS has been awarded multi-million dollar R & D contract to develop four terminal (amorphous silicon and nano-crystalline silicon) solar cells from **XSunX** (information can be found http://www.XsunX.com) and to build a solar cell production line using its patented reel to reel cassette cluster tool.

2. **National Renewable Energy Laboratory, Golden** has awarded a second phase of a contract to MVSystems Inc, to complete a cluster tool (multi-chamber) for thin-film Silicon materials and solar cell development. This consists of numerous PECVD, Hot Wire CVD and sputtering chambers.

3. **Golden Crown Technology, China** has awarded phase 1 of a production line based on MVS's patented reel to reel cassette cluster tool for solar cell production.

MVS is currently building for The University of Waterloo, Canada a reel to reel cluster tool system to be used for flexible thin film silicon solar cell and display development. Over the last 3 years MVS has supplied to the University of Waterloo, several cluster tool systems for thin film transistor development. The group is headed by Professor Arokia Nathan, a world renowned expert in thin film electronic device development.

MVS has recently installed a cluster tool system at **Tokyo Institute of Technology, Japan** and multi-chamber PECVD system and a sputtering system at **CIEMAT, Madrid, Spain.** These systems are all used for advanced thin film silicon development.

MVS is also conducting R & D for various entities in memory devices, thermal imaging systems and solar energy to hydrogen conversion using photo-electrochemical approach under a contract from **The University of Hawaii.**

MVS manufactures advanced Cluster Tool systems which allow integration of different process modules such as **PECVD, sputtering, Hot Wire CVD, rapid anneal etc.** The process modules are stationed around a central evacuated isolation and transfer zone (ITZ): a computerized robotic arm, situated within the ITZ, inserts and extracts the substrates from the process chambers. This versatile configuration permits the deposition of multi-layers in any sequence, thus allowing the fabrication of advanced electronic device structures, such as solar cells, thin film transistors, sensor arrays, etc.

MVS's patented (US patent number:6,258,408 B1) reel to reel cluster tool involves the use of a cassette, which houses a flexible material. Each process chamber contains appropriate drives and mechanisms to locate the cassette over a deposition zone (e.g. PECVD or sputtering). Within the process chamber, the cassette is engaged for movement of the flexible material from one reel to another during the deposition process. At the end of deposition, the flexible material is returned to its original reel and locked into position and disengaged from the chamber for transport; the entire cassette is then transported to the next chamber in a similar fashion to that for a rigid substrate (i.e. using a robotic arm). Hence cross contamination is eliminated for fabrication of advanced devices (solar cells or thin film transistors) on flexible substrates. The system also allows the use of cassettes and planar substrates.

MVSystems, Inc., a US based company, was founded by the leading authorities in the thin film semiconductor area. They have pioneered the expanding and versatile Amorphous Silicon technology from 1970 onwards. The principals involved have a long history of PECVD equipment development for research and production. MVS has delivered in excess of 70 systems and are located in 18 countries.

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Incorporated in 1989